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southward through the ranges of *Northeastern* America, etc." while *Northwestern* America must be intended, there being no evidence, we believe, of the occurrence of this species east of Michigan and Ohio. N. L. B.

Sinonimia Vulgar y Científica de Varias de las "Plantas de la Nueva España," de M. Sessé y José Mociño. José Ramírez. (El. Estudio iv. 220).

Tsuga Pattoniana. (Gard. Chron. xii. 10). With illustrations of *Tsuga Pattoniana* and *T. Mertensiana*.

Umbellularia. (Gar. and For. v. 349). With illustration of *Umbellularia Californica*.

Proceedings of the Botanical Club of the Forty-first Meeting of the A. A. S., Rochester, N. Y., August 18-24, 1892.

THURSDAY, AUGUST 18TH.

The meetings of the Club were held in the main building of Rochester University, in which were carried on the sessions of the American Association.

Owing to the unavoidable absence of both President and Vice-President, the opening session of the Club at 9 A.M. was called to order by its Secretary.

Dr. H. H. Rusby was chosen to fill the vacancy of the President's chair, and Dr. W. P. Wilson that of Vice-President.

To save time, the reading of the minutes was dispensed with. The Treasurer's report was accepted, and a voluntary contribution amounting to \$4.56 was taken up to defray the expenses of the Secretary's office. The Committee on Nominations to nominate officers for the ensuing year was appointed by the Chair, and consisted of the following members: Arthur Hollick, C. R. Barnes and F. V. Coville. The Local Committee reported upon the proposed excursion of the Club to the lake shore, and the matter was referred by the Club to the President and Secretary.

Under the head of new business, Dr. N. L. Britton presented the following resolution, the outcome of a preliminary meeting of those especially interested in questions of nomenclature, held the night previous:

In view of the great desirability of establishing a stable sys-

tem of botanical nomenclature in North America, I move the appointment of a committee of seven members of the Club, of which the President shall be one, to consider the questions involved, and to submit a set of recommendations to the Club before the close of the present session.

The resolution was adopted and the President appointed the following members to serve on this committee: H. H. Rusby, N. L. Britton, J. M. Coulter, F. V. Coville, L. M. Underwood, L. F. Ward and W. A. Kellerman.

The first paper on the programme, by Dr. Britton, "Some Nomenclatorial Problems," was, upon the request of the author, omitted, in view of the previous conference and appointment of a committee to consider the matter.

The papers presented, together with brief abstracts, are given in sequence of delivery as follows except in cases noted, where they are to be published subsequently in full. So far as possible, the discussion following each paper has been added to the abstract.

I. "The use of the terms Range, Locality, Station and Habitat," by F. V. Coville.

Mr. Coville suggested the following definitions:

Range.—The region over which a type naturally grows.

Locality.—The more or less general geographic position of one or more individuals of a type.

Station.—The precise spot upon which a type occurs or an individual was collected.

Habitat.—The kind of place in which a type or individual occurs.

This paper was discussed by Dr. Britton, who pointed out the need of more such papers to restrict definitely the meanings of terms in common use among botanists; Dr. Barnes, who objected to the third clause on the ground that it was impossible to define the precise spot upon which a type occurs; Mr. Seaman, who protested against the use of the word *type*, and suggested the substitution of the word *species*; Mr. Fernow, who agreed with Mr. Seaman in objection to the word *type*, and suggested under the definition of the term *station* the phrase "precise spot upon which the indi-

vidual occurs," for "precise spot upon which the individual was collected."

On motion of Dr. Britton, a committee consisting of Messrs. Coville, Beal and Fernow was appointed to discuss the matters brought up by the paper, and report before the close of the session.

2. "Travels in Paraguay and its Flora," by Thomas Morong.

The speaker gave a brief account of his two years' experience in Paraguay, stating that a complete account of the botanical results of his trip would soon be published.

Dr. Rusby called the attention of the Club to the dangers that had surrounded Dr. Morong in his travels.

3. "A variety of *Polypodium vulgare*, L., new to America," by L. M. Underwood.

In the autumn of 1890 my attention was called to a peculiar "crispy" fern, growing on Mohawk Mountain, Connecticut, by Mrs. T. R. Waite, of New Haven, who had spent several summers on the summit of the mountain in the log cabin established there for tourists. The plant proved to be a variety of *Polypodium vulgare* hitherto unknown in this country, but described from England as var. *Cambricum*. The plant is easily recognized by its deeply pinnatifid pinnæ, which are strongly in contrast with the normal entire pinnæ of typical forms of the species. This discovery is rendered more interesting by the announcement of the "State Botanist" of New York* of a second European variety of this same species. Unlike var. *cristatum*, as figured by Peck and shown in the specimens kindly communicated by him, the specimens of var. *Cambricum*, as found on Mohawk Mountain in August, 1890, and again in July, 1891, were entirely sterile, not even showing rudimentary sori. The plants were growing on the sloping face of the granitic rock of which the mountain is composed, in small patches thoroughly entangled with plants of normal *Polypodium vulgare*. Environment is, therefore, not the cause of the variation in this instance, but it must be attributed rather to an inherent tendency to be something different. It is a question of interest to know just when to recognize a form of this kind as a true botanical variety.

* XLIV Reg. Report, plate I.

In addition to the paper printed in full above, the author showed specimens of *Onoclea sensibilis*, var. *obtusilobata*, illustrating a peculiar adaptation in the fertile fronds that succeed, in time of appearance, sterile fronds that have been cut or injured. These fertile fronds show a development of foliar surface abnormal to fronds of uninjured plants, and open out upon first arising from the root-stock, evidently to supply chlorophyll bearing tissue to perform the necessary work of assimilation. The paper was discussed by M. B. Waite, who inquired if the peculiar variety of *Polypodium vulgare* might not be a hybrid. The author thought not, as he had found all gradations of variation from the typical *P. vulgare*.

The afternoon session was opened by the report of the Committee on an Excursion to the shore of Lake Ontario. The committee decided it impracticable to accept the invitation of the local committee.

The following papers were presented :

4. "Symbiotic Growths in the Roots of Ranunculaceæ," by F. B. Maxwell (presented by W. R. Dudley).

This was a preliminary paper on the occurrence of fungal hyphæ in the cortex of the roots of dry land species of *Ranunculus*, *Anemone*, *Clematis* and other genera.

Discussion was opened by Dr. Beal, who inquired if the mycelium of the fungus was found at or near the tip of the growing roots of the plants; to which the author replied that these fungal hyphæ were found within one to two centimetres of the root-tip. Prof. Kellerman asked if any exterior signs of the presence of fungus could be seen; to which Maxwell replied that to all external appearances the roots were perfectly healthy and normal in all respects. Prof. Dudley mentioned the fact that work upon the fungus had been secondary to a study of the anatomy of the roots, and had been suggested by the presence of similar fungous bodies in the roots of Orchidaceæ, and expressed the opinion that these fungi, growing in symbiotic relations with the roots of plants, might be much more frequent than had been supposed. Dr. Rusby inquired if all plants of a species were attacked alike, to which the author replied in the negative. Dr. Britton brought out the fact that all, or nearly all, roots of a single plant were

likely to contain the fungus ; Dr. Beal, that no difference between plants with these fungi and those without was observable above ground.

5. "Some Rare and Interesting Fungi from Florida," by W. T. Swingle.

In this note the author called attention to, and showed specimens of, four little-known fungi from Florida. The first an Ascomycete, new to America, and also on a new host, resembles, in a slight degree, *Claviceps*, but differs from this fungus in many respects. The parasite attacks the inflorescence of *Cenchrus echinatus* while it is young, and transforms it into a black, shining sclerotium from two to three inches long. These sclerotia produce the first year spermatogonia as pustular bodies partially imbedded in the substance of the sclerotium, and later, after one year at least, the ascigerous form, which consists of a globular head supported on a long, slender stipe. The asci are embedded in cavities in this head. The fungus has been named by Fries, *Ephelis*, from the sclerotial and spermatogonial stage, and by Spegazzini as *Balansia*, from the ascigerous form. It has also been described by Cooke & Massee in *Annals of Botany*. Unlike ordinary *Claviceps*, the tissue of the host plant is included within the substance of the sclerotium. He noted, on authority of Prof. Rolfs, that the veterinarian of the Florida Experiment Station is at work upon the question whether these sclerotia produce a disease similar to ergotism, and thought that its destructive action upon the terrible sand-burr would be worth looking into.

The second fungus was a species, probably new, of *Cæoma*, attacking the cones of *Pinus palustris* and *P. Cubensis*. When attacked, the cones become broader and stouter than the healthy ones, and assume a chocolate-brown exterior. The exterior layer upon breaking away, as it sometimes does in a single night, reveals the immense sorus of chrome-yellow spores, which renders the cone conspicuous for at least one-eighth of a mile.

The third interesting species, found upon the leaves of the sour orange in the hummock land of Florida, appears as a whitish or gray strand, which ascends the young branch, and on reaching the leaf spreads itself out on the upper surface in a thin, whitish layer, and causes a wilting and final death of the leaf. From the

habit of spore production, the author thinks it may be related to the *Thelephoriaceæ*.

The author finally exhibited a disease of pear trees and fruit, which resembled that of the orange previously spoken of, which was called to his attention by Prof. Rolfs. It differs from the orange disease in its mode of spore formation, and in the color of the strands which are found on the twigs and fruit. Discussed by Kellerman, who inquired as to the time of fruiting of the ascigerous form of the fungus on *Cenchrus*, bringing out the fact that this form was mature only after the first year, as in *Claviceps*.

6. "Anatomy as a Special Department of Botany," by Dr. Emily L. Gregory.*

FRIDAY, AUGUST 19TH.

The morning meeting was called to order, and the following paper read:

7. "Observations upon Certain Species of Asclepiadaceæ as Insect Traps," by Thomas Morong.

The paper was discussed by Dr. Beal, who stated that he had found large numbers of mosquitoes caught by the flowers of *Apocynum androsæmifolium*; and by Mr. Fairchild, who called attention to the fact that the two pollen masses of the pollinia of several of our common asclepiads which, when first withdrawn from their cavities beside the stigmatic surface of the flower, are lying in one plane with edges to each other, when drying, close like the leaves of a book; he suggested this might be an adaptation to aid in bringing about its insertion into the slit of the stigmatic cavity of another flower.

Dr. Morong exhibited at this time a species of *Nymphaea*, reference to which he had previously made in the "Botanical Gazette." The species he had named *Nuphar rubrodiscum* and believed it to be a fertile hybrid of *N. Kalmianum* and *N. advena*. He referred to the publication of the species as a variety of *N. advena* in the last edition of Gray's Manual, but maintained that it is a distinct species, but if considered a variety, he suggests it is most nearly related to *N. Kalmianum*.

* To be published subsequently.

Dr. Beal offered the following resolution at this point: Resolved, that a vote of thanks of the Botanical Club be extended to E. B. Southwick, Botanist of the Central Park, New York, for his very interesting exhibit of some sixty or more species of fruits and nuts including their branches and leaves. The resolution was unanimously accepted.

The President, out of courtesy to the valuable work done by the United States Department of Agriculture, called upon Dr. Vasey to make some remarks upon the work now in progress in the Botanical Division of this Department. The Doctor outlined briefly the various undertakings of the year, mentioning first, the field work, which during the present season, has been confined to Idaho, owing to insufficient means for the support of field agents in other States as heretofore maintained. The large number of 53,000 specimens has been collected the present season and more are being sent in. In addition he mentioned the publications of the Division and announced the speedy completion of the Grasses of the Pacific Slope, a work supplementary to the Grasses of the Southwest; also the admirable work of Dr. Coulter upon the Flora of Texas, of which the third part was soon to appear. As to the experimental work in the cultivation of the forage grasses carried on at Garden City, Kansas, with branch stations in Colorado, Utah, North and South Dakota, Wyoming, Texas and New Mexico, all of which branch stations, however, have been discontinued for lack of funds; the speaker mentioned *Bromus inermis* as one of the most promising grasses, for pasture uses, of which twenty-five acres were already planted near Garden City. Dr. Vasey mentioned *Panicum virgatum*, *Andropogon nutans* and *Agropyrum glaucum* as likely to prove of value, either as pasture grasses or for meadow, and spoke hopefully of work in progress upon the growth of cereals in this arid region, expressing his opinion that cereals would be finally grown in this section of the country without irrigation.

On suggestion of Dr. Britton, who made a preliminary report of the Committee on Nomenclature, the matter of the reception of the report was made a special order for the afternoon meeting. No one objecting, the chair announced that the report of the Committee on Nomenclature would be discussed during the afternoon session.

Dr. Arthur spoke of the committee of botanists that had been appointed by the World's Fair Auxiliary to consider the matter of a Botanical Congress at the World's Columbian Exposition in 1893, stating that this committee had arranged for and caused to be printed, circular letters to be sent to all American botanists, asking their opinions in regard to the feasibility of holding such a Congress. These letters had not been distributed, for some unknown reason. In regard to the probability of the attendance of English and German botanists, if such a congress should be held, Dr. Arthur stated that from personal interviews he had ascertained that while a few German Botanists would probably attend, none, or at least very few of the English botanists would be able to come. Prof. Barnes asked for the opinion of the committee, and the Club was informed by Dr. Arthur, a member of this committee, that it was their opinion that the holding of such a Congress would not be feasible.

On motion of Prof. Barnes it was resolved :

That it is the sense of the Botanical Club of the American Association for the Advancement of Science that it is inexpedient to attempt to hold an International Congress of Botanists in connection with the World's Columbian Exposition in Chicago, in the summer of 1893.

Prof. Arthur stated that inasmuch as foreign botanists have been given the impression that there will be an International Botanical Congress at Chicago, he considered it very desirable that a special effort be made to make the next meeting of the Club and Botanical Section as interesting, important and attractive as possible, and offered the following resolution, which was unanimously adopted :

That a committee of three be appointed to act in connection with the officers of the Section of Botany, to arrange for the gathering of botanists next year, the committee to report at a later meeting.

The President appointed Prof. Arthur, Dr. Robinson and Prof. MacBride.

8. "General notes on the Cryptogamic Flora of Liberia," by O. F. Cook, was in the nature of a talk, of which the following are a few of the important points mentioned. Liberia is a tropical forest, and really no dry season occurs, for the

moisture is so great that even when the rainy season has passed the air is saturated with water. Travelling through this dense forest is made difficult by the many fallen trees which are usually covered with vines and twining plants. There are no Coniferæ to be found in the region, and only four or five species of palms, while orchids are abundant, their flowers are small and inconspicuous.

Aquatics are not numerous in the waters, and the ferns are largely epiphytic. One species is especially noticeable as apparently possessing a large prothallium in the shape of a dish which is used by the plant for the purpose of collecting water, earth, and other substances for the nutrition of the plant.

Only one species of *Adiantum* was observed, and the Hymenophyllaceous forms are few. A species resembling a *Gleichenia*, forms delicate pea green banks, very beautiful in color, while a climbing *Selaginella*, found growing upon bushes and small trees, and another upon rocks, are more beautiful than the cultivated species of that genus. One species of *Lycopodium* grows in the region to a height of 8 to 10 feet, and resembles superficially a tamarack tree.

The true mosses are scarce, with the exception of *Barbula* forms, which are frequent, and one hypnoid form found hanging from the trees, but never in fruit. Hepaticæ are present in this moist region in enormous numbers, and almost every tree-trunk is covered with a species probably of the genus *Plagiochila*. The fresh-water algæ are not numerous, a few forms like *Batrachospermum* only being found among the lower cryptogams. The Hymenomycetes are very numerous and bright-colored; one species of *Amanita* is very much larger than any ever seen before by the speaker, attaining the size of 10 inches in height by 10 inches in diameter. The Polyporei seem to be more abundant than the Agaracini, and the author is of the opinion that the present systematic arrangement of the Hymenomycetes would be of little use in this region because of the strange forms. The Gastromycetes are present only in few numbers, and parasitic fungi are extremely scarce, only one true disease, that upon the coffee plant, being noticed, and this only occasioning insignificant injury.

Lichens and Myxomycetes are not numerous, although a few strange forms were found, notable among which was a pendant species of *Comatricha*, two and one-half inches long. The species of Myxomycetes are peculiar as being represented by forms nearly related to those common in North America.

The afternoon meeting was called to order by the President pro tem, and the Committee on Botanical Nomenclature was called upon to report. Dr. Britton, chairman of the Committee, stated upon presentation of the report that it was the result of the deliberations of as large a body of botanists as could be gathered together in a preliminary meeting Tuesday evening, together with the deliberations of the committee appointed by the club, and further, that the committee was unanimously agreed upon the report. On motion, the report was adopted article by article, with slight amendments, and unanimously as a whole, as follows:

Resolved: That the Paris code of 1867 be adopted except where it conflicts with the following:

I. THE LAW OF PRIORITY.—Priority of publication is to be regarded as the fundamental principle of botanical nomenclature.

II. BEGINNING OF BOTANICAL NOMENCLATURE.—The Botanical nomenclature of both genera and species is to begin with the publication of the first edition of Linnæus "*Species Plantarum*," in 1753.

III. STABILITY OF SPECIFIC NAMES.—In the transfer of a species to a genus other than the one under which it was first published the original specific name is to be retained, unless it is identical with the generic name, or with a specific name previously used in that genus.

IV. HOMONYMS.—The publication of a generic name or a binomial invalidates the use of the same name for any subsequently published genus or species respectively.

V. PUBLICATION OF GENERA.*—Publication of a genus consists (1) in the distribution of a printed description of the genus named; (2) in the publication of the name of the genus and the citation of one or more previously published species as examples or types of the genus, with or without a diagnosis.

*Amended August 22nd by the insertion of the word "only" after the word "consists" in the second line.

VI. PUBLICATION OF SPECIES.*—Publication of a species consists (1) in the distribution of a printed description of the species named; (2) in the publishing of a binomial, with reference to a previously published species as a type.

VII. SIMILAR GENERIC NAMES.—Similar generic names are not to be rejected on account of slight differences, except in the spelling of the same word; for example *Apios* and *Apium* are to be retained, but of *Epidendrum* and *Epidendron*, *Astero-carpus* and *Astrocarpus*, the later is to be rejected.

VIII. CITATION OF AUTHORITIES.—In the case of a species which has been transferred from one genus to another, the original author must always be cited in parenthesis, followed by the author of the new binomial.

N. L. BRITTON,	FREDERICK V. COVILLE,
JOHN M. COULTER,	LUCIEN M. UNDERWOOD,
HENRY H. RUSBY,	LESTER F. WARD,
WILLIAM A. KELLERMAN,	<i>Committee.</i>

The principle features of the discussion were as follows:

ART. I was adopted without important discussion, the vote standing 14 to 4 in its favor.

ART. II unanimously adopted by acclamation.

ART. III adopted by acclamation, which was not unanimous. Mr. Fernow inquired in regard to the last clause, if duplicate binomials were in use among European botanists. Dr. Britton replied with the statement that to his knowledge they were not. Mr. Fernow inquired as to what specific name would be retained in case the oldest was a duplicate. Mr. Coville replied the next oldest.

ART. VI adopted unanimously.

ART. V adopted unanimously after considerable discussion. Mr. Swingle raised the question that publication of a genus without a diagnosis could not properly constitute its publication, to which Mr. Coville answered that in the "Species Plantarum," taken as the beginning of botanical nomenclature, all genera were without diagnosis, and Dr. Britton suggested that the probability of future publication of genera without diagnoses was not great.

* Amended, August 22d by the insertion of the word "only" after the word "consists" in the second line.

The article was further discussed by Messrs. Vasey, Fernow, Mohr, Bailey and Coulter, but as much of this referred to article I and not to V it is not repeated here.

ART. VI adopted unanimously after a protracted discussion, in which distinct differences of opinion were expressed. Mr. W. T. Swingle objected to the exclusion of specimens distributed in exsiccati or collections from consideration as published species, even if without diagnoses, and offered the amendment as a 3d section to be added to this article: “(3) in the distribution of specimens with ink or printed labels to the principal herbaria or specialists.” The amendment was lost, the vote standing 12 to 4 against its adoption. Mr. O. F. Cook also offered the following amendment: “that all species described before Jan. 1st, 1893, under herbarium and manuscript names shall stand, but not after that date.” This amendment was lost.

ART. VII adopted unanimously.

ART. VIII adopted unanimously.

Dr. Britton presented the following resolutions, which were unanimously adopted:

Resolved: That the Committee on Nomenclature be continued as a permanent Committee of the Club or Botanical Section of the A. A. A. S. to prepare and print a list of flowering plants within the area of the 6th edition of Gray's Manual, in accordance with these recommendations.

(Amended Aug. 22d, increasing the area by including the States of Kansas and Nebraska, and the Canadian Provinces from Manitoba to Newfoundland.)

Resolved: That this Committee be empowered to receive all suggestions and criticisms of this list, and to report upon the matter at the next meeting of the Club or Botanical Section.

MONDAY, AUGUST 22D.

The meeting was called to order by the Secretary, who called Mr. H. L. Russell to the chair, in the absence of President and Vice-President.

The Committee on Nominations reported, naming the following members as officers for the ensuing year: President, W. P. Wilson;

Vice-President, W. A. Kellerman; Secretary, T. H. MacBride. They were unanimously elected.

The following papers were presented:

9. "On the proposed Hand-book of Mosses of Eastern America," by Mrs. E. G. Britton. Discussed by Messrs. Barnes, Jones and Claypole.

10. "Weeds and Weed Roots," by B. D. Halsted. A simple method of photographing herbarium specimens from above, consisting of a framework to support the camera at a distance of 15 to 25 feet above the specimens laid out upon a large table. With illustrative photographs.

11. "The re-discovery of *Juncus Cooperi*," by F. V. Coville.*

12. "The North American *Amelanchiers*," by N. L. Britton.*

13. "A new form of Root Cage," by J. C. Arthur. The author exhibited a new form of root cage for use in the study of the growth of roots, consisting of two plates of glass separated by thin strips of the same material and held in place by zinc clamps, the whole to be placed in a shallow trough, filled with water. The advantages of the cage with easily removable glass sides was dwelt upon.

14. "The Botanical Garden movement in New York," by N. L. Britton.

15. "A few additions to the Hepatic flora of the Manual Region,"* by L. M. Underwood.

Discussed by Mr. Coville, who mentioned the finding of a *Fossombronia* in the neighborhood of Cayuga Lake, which he believed was referable to *F. cristata*.

The following resolutions were presented and adopted:

"That Dr. Lucien M. Underwood be delegated to represent this Association of American Botanists at the International Botanical Congress to be held at Genoa, Italy, Sept. 4 to 11, 1892."

"That a committee, of three be appointed to obtain funds by subscription to defray the expenses of the delegate."

The Chairman appointed Dr. J. M. Coulter, Dr. W. P. Wilson and Dr. E. F. Smith.

The afternoon meeting was called to order by the Vice-President pro tem., and the Committee on Arrangements for the

*To be printed in full later.

meeting of botanists in connection with the Association next year, appointed Friday morning, reported the following recommendations, which were adopted :

I. (1). That the officers (vice-president and secretary) of the section of botany for 1893 shall, together with one person to be chosen by the Botanical Club, constitute a committee to whom is referred the arrangement of a special programme for the meeting of 1893.

(2). That the programme shall include, among other matters, certain special topics selected by the committee.

(3). That each topic shall be introduced by a paper presented by some person to whom the topic has, with his consent, been assigned.

(4). That upon completion of the preliminary programme and other arrangements, a printed statement, with an invitation to be present at the meeting, be sent to both American and foreign botanists.

II. That a committee of three, of which Dr. N. L. Britton shall be chairman, be appointed to make such arrangements for special excursions at the close of the meeting, as may be found practicable and desirable.

In accordance with the recommendations of the report, the President appointed the following committees :

1. The Committee of Arrangements.—Dr. Bessey, Mr. Coville and Prof. Barnes.

2. The Committee on Excursions.—Dr. Britton, Dr. Trelease and Dr. Campbell.

The matter of the organization of a permanent American Botanical Society was brought up by Professor Bailey, and the following resolution offered and adopted :

“That a committee of nine members be appointed by the Chairman to consider the formation of an American Botanical Society after obtaining the views of the botanists of America on the proposition, and report thereon at the next meeting of the Club.”

The Chairman appointed as this committee : L. H. Bailey, Chairman, W. G. Farlow, Emily L. Gregory, B. D. Halsted, James Fletcher, Douglass H. Campbell, C. R. Barnes, F. Lamson-Scribner, Lester F. Ward. On motion of Dr. Britton, Dr. W. P. Wilson's name was added.

The following papers were read :

16. "On the Genus *Campylopus* in North America," by Mrs. E. G. Britton.*

17. "Note on a Recent Outbreak of Peach Yellows near Ann Arbor, Mich.," by A. A. Crozier. The speaker adduced evidence to prove the communicability of the disease.

18. "Some observations on *Epigæa repens*," by W. P. Wilson.*

19. "Notes on Some Species of *Cratægus*," by N. L. Britton.*

Dr. Arthur exhibited leaves of *Drosera rotundifolia*, brought by Miss Edna Porter, of Buffalo, from which young plants were growing.

TUESDAY, AUGUST, 23D.

The meeting was called to order by the Vice-President pro tem. at 1:30 P.M., and after the appointment of the Committees on Arrangements for the ensuing year, on excursions for the next meeting and on the establishment of an American Botanical Society, (the names appearing in their proper places below the resolutions as adopted), the club listened to the following papers :

"Observations on the ripening of the seeds of *Cuphea*," by Mrs. H. L. T. Wolcott.

The paper called attention to a novel adaptation in a cultivated species of *Cuphea*, by which the placenta with immature ovules pushes through the side of the calyx tube and stands exposed as a curved projection for the purpose of ripening its seeds, which fall to the ground on maturity. The author also wished to make a report upon her work, in connection with the Department of Agriculture, which she had been requested to make by Dr. J. N. Rose, and which consisted of tests of large numbers of seeds of rare plants from Mexico and other regions. Although the work has just been begun, there have been secured a large number of rare *Ipomææ*, now growing in pots.

The paper was discussed by Dr. Britton, who stated that *Cuphea viscosissima* had a habit similar to that called attention to, by Mrs. Wolcott.

20. "Notes on the Mountain Flora of Northern Alabama," by Chas. Mohr.†

* To be published later.

† To be printed in full in an early number of "Garden and Forest."

Mr. Fernow, as chairman of the committee on a discussion of what data should accompany herbarium specimens, reported a complete disagreement of opinion in the committee, and on motion this committee, consisting of Messrs. Fernow, Coville and Beal, was continued to report at the next meeting. Owing to the desire of many members to take advantage of the excursion to the fish hatchery at Mumford, the club adjourned at 2 P.M. to meet in 1893 at Madison, Wisconsin. The following papers were read by title only, either because of absence of their authors or for lack of time.

"Some general questions in the classification of Myxomycetes," by O. F. Cook.

"North American Cacti," by J. M. Coulter.

"Cultivated species of *Brassica*," by L. H. Bailey.

"Notes on the distribution of plants in Florida," by P. H. Rolfs.

"Notes on some fungi common during the season of 1892 at Ames, Iowa," by L. H. Pammel.

"Notes on some Kansas weeds," by A. S. Hitchcock.

"Notes on the flora of Block Island," by W. W. Bailey.

"Notes on the distribution of a few plants," by L. H. Pammel.

"Phænological notes for 1892," by L. H. Pammel.

"Observations on the North American species of Orchidaceæ and their nomenclature," by Thomas Morong.

"Some noteworthy features of the flora of West Virginia," by C. F. Millspaugh.

"On the genus *Ditrichum* in North America with one new Western species and corrections for two Eastern species," by Mrs. E. G. Britton.

"Notes on terminology," by Theo. Holm.

"Notes upon a revision of the North American Naiadaceæ," by Thomas Morong.

"Notes on some pear and apple diseases," by M. B. Waite.

"Modifications of the tomato plant resulting from seed selection," by E. S. Goff.

"Some of the rare Mosses of White Top and vicinity, recently collected on a trip to Southwestern Virginia," by Mrs. E. G. Britton.

"Galvanotropism," by J. C. Arthur.

"A botanical terminology," by A. A. Crozier.

"A proposed collection of mosses of New York State for the Columbian Exposition," by Mrs. E. G. Britton.

"Climing habit of *Tillandsia usneoides*," by W. P. Wilson.

D. G. FAIRCHILD, *Secretary*.

TITLES OF BOTANICAL PAPERS READ OR PRESENTED BY
TITLE BEFORE THE SECTION OF BIOLOGY, A. A.
A. S., ROCHESTER MEETING, AUGUST, 1892.

Notes on *Ranunculus repens* and its Eastern North American allies, by N. L. Britton.

Notes on a monograph of the North American species of *Lespedeza*, by N. L. Britton.

The root system of *Mikania scandens*, by W. W. Rowlee.

Preliminary comparison of the Hepatic Flora of boreal and sub-boreal regions, by L. M. Underwood.

Notes on Maize, by G. Macloskie.

Spikes of Wheat bearing abnormal spikelets, by W. J. Beal.

A study of the relative lengths of the sheaths and internodes of grasses for the purpose of determining to what extent this is a reliable specific character, by W. J. Beal.

Adaptation of seeds to facilitate germination, by W. W. Rowlee.

Bacteriological investigations of marine waters and the sea floor, by H. L. Russell.

Sketch of the Flora of Death Valley, California, by F. V. Coville.

How the application of hot water to seed increases the yield, by J. C. Arthur.

Heredity of acquired characters, by M. Miles.

On the supposed correlation of quality in fruits—a study in evolution, by L. H. Bailey.

Non-parasitic Bacteria in Vegetable Tissue, by H. L. Russell.

Notes on Yellow Pitch-pine—*Pinus rigida*, Mill. var. *lutea*, Kell. n. v., by W. A. Kellerman.

Germination at Intervals of Seeds Treated with Fungicides,
by W. A. Kellerman.

The Fertilization of Pear Flowers, by M. B. Waite.

The Fertilization of the Fig and Caprification, by C. V. Riley.

A Comparative Study of the Roots of Ranunculaceæ, by F.
B. Maxwell (presented by W. R. Dudley.)

The conditions which determine the distribution of bacteria
in the water of rivers, by J. H. Stoller.

Notes on *Daucus Carota*, by C. W. Hargitt.

Geographic relationship of the flora of the high Sierra-Nevada,
California, by F. V. Coville.

Variation in native ferns, by W. M. Beauchamp.

Life-for-ever eradicated by a fungous disease, by D. G.
Fairchild.

Otto Kuntze's changes in nomenclature of North American
grasses, by G. Vasey.

Revised nomenclature of the arborescent flora of the United
States, by B. E. Fernow and G. B. Sudworth.

Characteristics and adaptations of desert vegetation, by F. V.
Coville.

Shrinkage of woods as observed under the microscope, by
F. Roth.

Peziza sclerotium, by L. H. Pammel.

Temperature and some of its relations to plant life, by L. H.
Pammel.

Pleospora of *Tropæolum majus*, by B. D. Halsted.

Secondary spores of *Anthracoses*, by B. D. Halsted.

A Bacterium of *Phaseolus*, by B. D. Halsted.

The significance of Cleistogamy, by T. Meehan.

During the meeting it was decided to divide the Section of
Biology into two sections, one of Zoology and one of Botany.

The next meeting of the Association will be held at Madison,
Wis., and the officers elected for the Section of Botany are, Vice-
President: C. E. Bessey, University of Nebraska; Secretary:
F. V. Coville, Dept. of Agriculture, Washington, D. C.